

Ontario and also of the parasites found in wildlife in this province. Many investigations have been undertaken in the industrial field and the Foundation is well equipped to work in engineering and metallurgy, physics, textiles, chemistry and biochemistry. The services of the Foundation are at the disposal of industry on a fee basis, and consultative services, testing, short-term studies and long-term investigations have been undertaken for hundreds of firms. The work has resulted in better products and in more efficient processing. The Foundation administers a grant from the provincial government to support postgraduate scholarships and scientific research in the universities of Ontario. It provides an information service for industry, which is supported by the Ontario Department of Planning and Development and the National Research Council.

The Hydro-Electric Power Commission of Ontario.—The Research Division of Ontario Hydro, with a staff of 300, provides services for all technical activities of the utility, in engineering design, construction work, power utilization, and system operation and maintenance. In addition to solving specific problems, the testing, investigation and research work leads to important technical advances, including the development of new and better equipment. Ontario Hydro is thus enabled both to improve the performance of the power system and to effect economies. Members of the staff maintain close contact with research organizations and other power utilities, and participate in the committee work of major technical societies and of standards associations.

Electrical investigations explore methods of generating, transmitting, distributing and utilizing power, and seek improvement in equipment for these purposes. Some of the main fields of study are transmission at extra-high voltage; electrical insulation; system operation and control, and system protection against lightning; communications and telemetering; illumination; and power metering. Attention is given to the performance and efficiency of power equipment, to improved measuring techniques, and to means of minimizing the hazards of electric shock.

Structural and mechanical studies include the following: soil mechanics as related to foundations, roads, and earth dams and dykes; the physical properties of structural components and of numerous items such as conductor joints and line hardware; the mechanical performance and safety features of equipment and various types of machines; metals and metallurgy; welding materials, techniques and applications; atmospheric and underground corrosion of metals; stresses in materials and structures; noise and vibration conditions; and a variety of problems associated with the design, construction and maintenance of concrete structures, the application of masonry materials, and the production, placement and quality control of all concrete used.

In addition to chemical analyses and tests performed on a wide range of materials and products purchased, chemical research work is conducted with regard to such subjects as wood preservation, plastics applications, protective coatings, both vegetation and insect pest control, lubrication, liquid and gaseous electrical insulants, thermal insulation, air pollution, corrosion prevention and water treatment. Other studies contributory and supplementary to the main branches of work are carried on in the fields of physics, biology, petrology, and mathematics. Operations research studies are used in determining optimum policies and procedures in vehicle replacement, inventory control, reserve transformer capacity, economic power dispatch, and schedules for pumped-storage operation.

Subsection 3.—Medical Research*

Support for research in the medical sciences is provided by the federal and provincial governments, by private foundations, by voluntary agencies and by universities and hospitals. These sources assist in establishing research fellowships for training, in providing salaries to established investigators or in the awarding of grants in aid of research in the various disciplines of the medical sciences.

* Prepared by Dr. J. Auer, Secretary, Medical Research Council, Ottawa.